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MATERIAL TRANSPORT METHOD

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ABSTRACT OF THE DISCLOSURE

A controlled material transport method for
10 carrying materials to and from workstations, test
equipment, and processing and assembly tools in a
common facility. The present invention includes a
rigid "robot vehicle" mountable to a passive track
system, which can be routed to service all processing
15 tools on the factory floor. The robot vehicle includes
a hoist assembly and gripper assembly, which together
perform such functions as picking up magazines, placing
magazines, and loading magazines into the processing
tools. The hoist assembly is capable of functioning in
20 an operational envelope, which includes any target
location within a 3-axis Cartesian coordinate system,
to the extent of the range of motion of the hoist
assembly. The hoist assembly also provides rigid and
controlled z-axis travel, while being compact when
25 retracted. The gripper assembly facilitates loading of
the magazines, especially chute style magazines, which
are commonly found on many existing processing tools.